

## **REMARKS**

These remarks are in response to the Office Action mailed August 16, 2010.  
No claims have been amended.

### **I. PRIORITY DATE**

Applicant respectfully disagrees with the position of the Patent Office related to Applicant's priority date. For example, the Office both says that NT69L and other NT agonists are allegedly not specifically described or shown in the priority document while at the same time taking the position that NT agonist are well recognized citing NT1 as an example. The priority document must place demonstrate to the person of ordinary skill in the art that the inventor had possession of the claimed invention. Here, Applicant indicates that NT agonist are useful in the methods of the disclosure (in both the priority provisional, PCT and present application). One of skill in the art would recognize the family of molecules ("NT agonist") being referred to at the time the provisional was filed.

### **II. REJECTION UNDER 35 U.S.C. §103**

Claims 15-16, 18, 22, 24 and 26 stands rejected under 35 U.S.C. §103 as allegedly unpatentably over Wettstein et al. (Prog. Neuropsychopharm Biol Psychiat 23: 533-544, 1999) and Vollenweider et al. (Neurorep 9:3897-3902, 1998) in view of Bowden (Psychiat Serv 52: 51-55, 2001) and further in view of Perry et al. (Biol Psychiat, 50: 418-424, 2001). Applicants respectfully traverse this rejection.

It appears that the Office is attempting to generate a motivation or suggestion based upon the combination of the foregoing references. However, it is important to recognize that the references being relied on alone or in combination fail to lead one of skill in the art to the claimed invention.

Wettstein et al., for example, screens a plurality of drugs to determine their effect on certain physical symptoms induced by DOI. Wettstein et al. tested the ability of various compounds to attenuate certain bodily effects produced by DOI. These bodily effects were shakes, forepaw tapping and skin jerks. Drugs with no known antagonism at serotonin-2A receptors were able to block at least 2 of the 3 DOI-induced behaviors (e.g. morphine, diazepam, fluoxetine and imipramine), thus

providing little knowledge to one of skill in the art regarding targeted therapies. The data in Wettstein et al. reveal that DOI-induced body shakes, forepaw tapping and skin jerks do not provide a specific screen for drugs that antagonize serotonin-2A receptors. Noting this, Wettstein et al. state, "The compounds that antagonized DOI's effects, however, are likely not exerting their action through similar mechanisms" (page 540). Thus, Wettstein et al. in fact do not teach "the selectivity of atypical antipsychotic drugs as antagonists of behavioral effects produced by psychotropic serotonin receptor agonist DOI." Wettstein et al. did not teach that NT1 necessarily was blocking serotonin-2A function or that NT1 was an atypical antipsychotic, since this effect was also produced by the typical antipsychotic haloperidol which does not block serotonin-2A receptors and by other (non-antipsychotics) drugs which do not block serotonin-2A receptors (e.g., raclopride, remoxepride, morphine, fluoxetine). There is no support in Wettstein et al. as alleged by the Office that "Because DOI is a serotonin receptor agonist and because NT1 administration antagonizes the antipsychotic effect of DOI, NT1 Inhibits serotonin-2A neurotransmission". Accordingly, there would be no motivation or suggestion to utilize NT agonists to treat serotonin receptor related diseases and disorders.

DOI-induced disruption of prepulse inhibition (PPI) is more selectively reversed by drugs that block serotonin-2A function. As noted above, haloperidol and raclopride are both devoid of notable serotonin-2A antagonism yet were effective at reversing DOI body shakes, forepaw tapping and skin-jerks (Wettstein et al, 1999). In contrast they were found ineffective on DOI-induced PPI disruption (Padich RA, McCloskey TC, Kehne JH. *Psychopharmacology (Berl)*. 1996; 124(1-2):107-16; Varty GB, Higgins GA. *Psychopharmacology (Berl)*. 1995 122(1):15-26). Thus, while Wettstein et al, 1999 demonstrated the neurotensin agonist, NT1, blocked DOI-induced body shakes, forepaw tapping and skin jerks, this did not teach that NT1 necessarily was blocking serotonin-2A function or that such activity would be useful in treating non-psychotic disorders such as bipolar, anxiety and depression disorders. To address this deficiency, the Office combines Vollenweider with Wettstein et al.

It is important to note that the teaching of Vollenweider is not relevant because depression and anxiety and bipolar disorder are not “psychotic” disorders. Accordingly, the teachings of Vollenweider would not be relied upon by one of skill in the art in arriving at the invention. Furthermore, Vollenweider does not teach neurotensin agonists can block 5-HT<sub>2A</sub> receptor function and, as noted above, neither does Wettstein et al. Accordingly, the combination of Wettstein et al. and Vollenweider do not teach or suggest each and every element of the Applicants' claimed invention.

To further attempt to generate a motivation or missing link in the obviousness rejection proposed by the Office, the Office combines Bowden with the foregoing references for the alleged teaching that bipolar, depression and anxiety disorders have a common feature of psychosis. However, depressive disorder, anxiety disorders and bipolar disorder do not normally have psychosis as feature.

The Diagnostic and Statistical Manual of Mental Disorders, version IV (DSM-IV) ( American Psychiatric Association, 2000) American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders—Text Revision (DSM-IV-TR), 4th ed. Washington, DC: American Psychiatric Association, 2000) the accepted authority on classification of mental disorders lists the following disorders under the section of “Schizophrenia and other psychotic disorders” (i.e., disorders characterized by psychosis): Schizophrenia, Schizophreniform Disorder , Schizoaffective Disorder, Delusional Disorder, Brief Psychotic Disorder, Shared Psychotic Disorder ,Psychotic Disorder Due to a General Medical Condition, Substance-Induced Psychotic Disorder, and psychotic Disorder Not Otherwise Specified.

Bipolar, depressive and anxiety disorders are not listed under the category of psychotic disorders (see above). Depressive Disorders and Bipolar Disorder are considered Mood Disorders and are listed in DSM-IV under the category of Mood Disorders. Unlike schizophrenia, psychosis is not a core feature of depression in DSM-IV. Psychosis rarely occurs in a depressive episode (Lykouras and Gournellis, 2009).

The core features of bipolar disorder do not include psychosis (DSM-IV TR, APA, 2000) . Psychosis rarely occurs in bipolar disorder when a patient with bipolar disorder experiences a severe depressive episode or manic episode.

Anxiety disorders include the following specific disorders: anxiety disorders include generalized anxiety disorder (GAD), social anxiety disorder (also known as social phobia), specific phobia, panic disorder with and without agoraphobia, obsessive-compulsive disorder (OCD), posttraumatic stress disorder (PTSD), anxiety secondary to medical condition, acute stress disorder (ASD), and substance-induced anxiety disorder. Anxiety disorders are listed separately from psychotic disorders and mood disorders in DSM-IV. The core features of anxiety disorders do not include psychosis (DSM-IV, APA, 2000) Under normal circumstances anxiety disorders are not associated with psychosis unless there is a co-existing condition.

Accordingly, one of skill in the art would not look to the teachings of Bowden et al. to remedy the lack of reference in the prior references to bipolar, anxiety or depression disorders. Thus, the combination does not provide the motivation alleged by the Office since a person of ordinary skill in the art would recognize that depression, anxiety and bipolar disorders are not psychotic disorders.

Perry et al. does not remedy the deficiencies of the foregoing references alone or in combination. Perry et al. reaffirms the DSM-IV TR, APA, 2000 criteria that the core features of bipolar disorder do not include psychosis (DSM-IV TR, APA, 2000). Psychosis rarely occurs in bipolar disorder except during a severe manic episode. As stated in Perry et al. the PPI was measured in patients with “psychotic mania” (see abstract, “PPI and startle habituation were assessed in BD patients with acute psychotic mania.”). Accordingly, there would be no suggestion that a typical bipolar subjects (i.e., without psychosis), would have reduced pre-pulse inhibition.

For, at least, the foregoing reasons the claims submitted herewith are non-obvious over the references either alone or in combination.

Claims 15-18, 22 and 24-26 stand rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Wettstein et al., Vollenweider et al., Bowden, Perry et al. in view of Greibel et al. Applicant respectfully traverses this rejection.

Wettstein et al., Vollenweider et al., Bowden, and Perry were discussed above. Greibel et al. do not remedy the deficiency of the foregoing references. Greibel et al. states that NT1 was ineffective except in specific types of anxiety (i.e., those associated with threat stimuli; see abstract). In fact, the article by Greibel et al. is rather inconclusive and if anything suggests that NT agonist are ineffective for general anxiety disorder. One of skill in the art, having read Greibel et al. would not have thought to utilize and NT agonist to treat anxiety disorder because of the fact that the paper by Greibel et al. states that the NT agonist is ineffective for such purposes. Thus the rejection should be withdrawn.

For at least the foregoing, the Applicant submits that the claimed invention is patentable and request reconsideration and notice of such allowable subject matter.

The Director is authorized to charge any required fee or credit any overpayment to Deposit Account Number 50-4586, please reference the attorney docket number above.

The Examiner is invited to contact the undersigned at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted,

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